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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,942	07/29/2003	Gerardus G.P. Van Gorkom	PHN 16,984A	9092

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EXAMINER

MONESTIME, MACKLY

ART UNIT PAPER NUMBER

2676

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/628,942

Applicant(s)

VAN GORKOM, GERARDUS G.P

Examiner

Mackly Monestime

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 8-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 6 and 7 are canceled in a preliminary amendment and claims 1-5 and 8-10 are presented for examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stern (US Patent No. 5,771,321) in view of Shigeta et al (US Patent No. 6,266,121).
4. Stern and Shigeta et al were cited in the parent application.

As per claim 1, Stern substantially disclosed the invention as claimed, including a display device comprise a light guide (Fig. 1; col. 5, lines 54-59), a movable element and selection means to locally bring said movable element in to contact with the light guide (Fig. 4B; Abstract, lines 6-29; col. 11, lines 36-67; and col. 12, lines 1-25; col. 15, lines 28-41; col. 19, lines 20-29).

Stern did not explicitly disclose that the display device comprises means for reducing adhesive forces between the movable element and the light guide. However, Stern did disclose the use of a stand off (Fig. 4B, Item No. 54) that suppresses contact

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forces between the light tap and the light storage plate (col. 2, line 67, col. 3, lines 1-2); and Stern further disclosed that the stand-offs prevent extended intimate contact of the surfaces to thereby reduce the likelihood that strong "stiction" forces develop (col. 10, lines 58-60). However, as well known to those of ordinary skill in the display art, the use of stand-off or spacers to reduce adhesive force between two transparent electrodes in order to improve display quality is well known in the display art. Moreover, Shigeta et al disclosed a liquid crystal display element and method of manufacturing the same in which spacers were used to reduce adhesive force and to improve display quality (col. 10, lines 8-13; col. 11, lines 55-57). It goes without saying that both the means for reducing adhesive force disclosed by applicant and the stand-off disclosed by Stern are used for the same functions (i.e. suppressing contact forces between the light tap and the light storage plate, or preventing intimate contact between the light tap and the light storage plate or reducing adhesive force). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the cited references because doing so would prevent extended intimate contact between the substrates and thereby provide a high resolution display.

5. As per claim 3, Stern disclosed the substrate electrodes counteract the static force and causes the tap beam to flex upward against the viewing substrate stand-offs (col. 13, lines 45-52). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to remove or counteract or to prevent a static charge from the movable element because doing so would prevent fluctuation of the display due to static charge and thereby improve display quality.

6. As per claims 8-9, Stern disclosed that there is no liquid between the movable element and the light guide; and the movable element is situated in an evacuated space (Fig. 4B, Item G).

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stern in view of Fidalgo et al (US Patent No. 5,690,773).

8. Fidalgo et al were cited in the parent application.

9. As per claim 5, Stern disclosed that the movable element is provided with an anti-adhesion layer on the side facing of the light guide (col. 9, lines 53-60). It can be evidenced in the reference Fidalgo et al in which silicon based polymer anti-adhesion layer (col. 3, lines 33-35). Therefore, Stern did disclose the use of anti-adhesion layer (col. 9, lines 53-60).

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stern in view of Adachi et al (US Patent No. 5,631,664).

11. Adachi et al were cited in the parent application.

12. As per claim 10, Stern did not explicitly disclose that the selection means comprises transparent electrodes; and means for generating a force causing the movable element to move towards the light guide, thus causing light to be emitted through the transparent electrode. However, Stern disclosed that the mechanical light tap is embodied as a transparent suspended beam having a transparent back surface (col. 8, lines 5-7) and further disclosed that the tap beam can be formed of a translucent material which facilitates scattering (col. 15, lines 1-13). Moreover, Adachi et al disclosed a display system utilizing electron emission by polarization reversal of

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ferroelectric material in which transparent electrode was used (col. 3, line 22) and further disclosed that the acceleration layer of an electrical light emitted portion caused light emitted portion to selectively emit light through transparent electrode (col. 3, lines 35-39). Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to implement such features in the teachings of Stern because doing so would provide a high image resolution display.

13. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stern in view of Adachi et al (US Patent No. 5,631,664).

14. As per claim 2, Stern substantially disclosed the invention as claimed, including a display device comprise a light guide (Fig. 1; col. 5, lines 54-59), a movable element and selection means to locally bring said movable element in to contact with the light guide (Fig. 4B; Abstract, lines 6-29; col. 11, lines 36-67; and col. 12, lines 1-25; col. 15, lines 28-41; col. 19, lines 20-29).

Stern did not explicitly disclose that the selection means comprises transparent electrodes; and means for generating a force causing the movable element to move towards the light guide, thus causing light to be emitted through the transparent electrode. However, Stern disclosed that the mechanical light tap is embodied as a transparent suspended beam having a transparent back surface (col. 8, lines 5-7) and further disclosed that the tap beam can be formed of a translucent material which facilitates scattering (col. 15, lines 1-13). Moreover, Adachi et al disclosed a display system utilizing electron emission by polarization reversal of ferroelectric material in which transparent electrode was used (col. 3, line 22) and further disclosed that the

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acceleration layer of an electrical light emitted portion caused light emitted portion to selectively emit light through transparent electrode (col. 3, lines 35-39). Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to implement such features in the teachings of Stern because doing so would provide a high image resolution display.

15. As per claim 4, Stern did not explicitly disclose that the movable element is electrically conductive at a fixed potential. However, Stern did disclose the use of a constant potential DC voltage that is maintained between the tap beam and the viewing substrate (col. 18, lines 66-67; col. 19, line 1). Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to have used a fixed potential in the teachings of Stern because doing so would prevent fluctuation of the display due to a variable potential and thereby improve display quality.

Response to Arguments

Applicant's arguments filed on July 29, 2003 have been fully considered but they are not persuasive. Applicant argued that the examiner did not make a prima facie case for the rejection (i.e. no suggestion to combine). In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5

USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the stand-offs disclosed by Stern are used for the same functions as the means for reducing adhesive force (i.e. suppressing contact forces between the light tap and the light storage plate, or preventing intimate contact between the light tap and the light storage plate or reducing adhesive force).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Oue et al (US Pub. No. 2004/0145696) taught a display device and method of manufacturing same.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mackly Monestime whose telephone number is (571) 272-7786. The examiner can normally be reached on Monday to Thursday from 7:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bella Matthew, can be reached on (571) 272-7778.

Any response to this action should be mailed to:

Commissioner of Patent and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

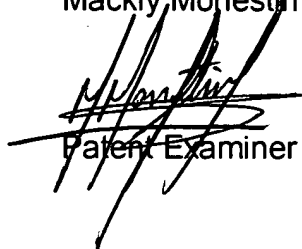
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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,

Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Mackly Monestime



Patent Examiner

May 26, 2005



MATTHEW C. BELLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600